

Low alloy sintered steel and method of preparing the same.

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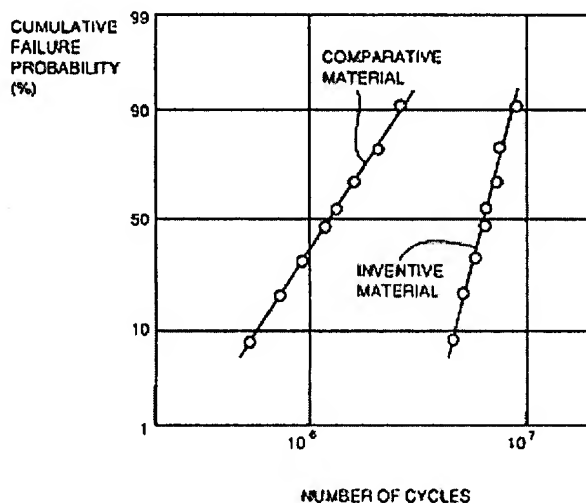
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Abstract of EP0600421

A low alloy sintered steel contains at least 0.15 percent by weight and less than 0.8 percent by weight of carbon. Its matrix is formed by a tempered martensite containing prior austenite crystal grains of not more than 15 μm in mean grain size. Pores and nonmetallic inclusions contained in the matrix are not more than 50 μm in maximum diameter, and density of the low alloy sintered steel is at least 96 percent of theoretical density. Raw material powder for the low alloy sintered steel includes iron alloy powder which is prepared by an atomizing process, and is treated with a dry mill in an inert gas atmosphere or in the atmospheric air. Thus, dislocations are introduced into the raw material powder, and nonmetallic inclusions contained in the raw material powder are pulverized to be not more than 50 μm in maximum diameter. Not only static characteristics but dynamic characteristics such as fatigue strength of the low alloy sintered steel are improved.

FIG. 2



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